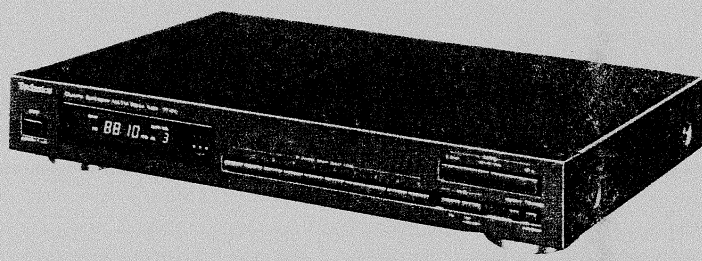
ORDER NO. AD9005116C8

Service Manual

Tuner

QUARTZ Synthesizer
AM/FM Stereo Tuner

ST-610



Color

(K)	Black Type
(S)	Silver Type

Area

Country Code	Areas	Color
(EG)	F.R. Germany	(K) (S)
(EI)	Italy	(K)
(GC)	Asia, Latin America, Middle Near East and Africa	(K)
(GN)	Oceania	(K)

SPECIFICATIONS
(DIN 45 500)

■ FM TUNER SECTION

Frequency range		87.50~108.00 MHz (50 kHz-steps)
Sensitivity		1.5 μV (IHF, usable)
S/N 30 dB		1.3 μV (75Ω)
S/N 26 dB		1.2 μV (75Ω)
S/N 20 dB		0.9 μV (75Ω)
IHF 46 dB stereo quieting sensitivity		28 μV/75Ω
Total harmonic distortion	MONO	0.15%
	STEREO	0.3%
S/N	MONO	70 dB (78 dB, IHF)
	STEREO	65 dB (70 dB, IHF)
Frequency response		20 Hz~15 kHz, +0.5 dB~−1.5 dB
Alternate channel selectivity normal ±400 kHz		65 dB
Capture ratio		1.0 dB
Image rejection at 98 MHz		45 dB
IF rejection at 98 MHz		90 dB
Spurious response rejection at 98 MHz		75 dB
AM suppression		55 dB
Stereo separation 1 kHz		40 dB
10 kHz		30 dB
Carrier leak 19 kHz		−30 dB (−35 dB, IHF)
38 kHz		−45 dB (−50 dB, IHF)
Channel balance (250 Hz~6,300 Hz)		±1.5 dB
Limiting point		1.2 μV
Bandwidth IF amplifier		180 kHz
FM demodulator		1000 kHz
Antenna terminals		75Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	
MW (for Oceania, F.R. Germany and Italy)	
	522 kHz~1611 kHz (9 kHz-steps)
	530 kHz~1620 kHz (10 kHz-steps)
MW (for others)	531 kHz~1602 kHz (9 kHz-steps)
	530 kHz~1600 kHz (10 kHz-steps)
Sensitivity (S/N 20 dB) MW	20 μV, 300 μV/m
Selectivity (±9 kHz) MW (at 999 kHz)	50 dB
Image rejection MW (at 999 kHz)	40 dB
IF rejection MW (at 999 kHz)	60 dB

■ GENERAL

Output voltage	0.3 V (0.6 V IHF)
Power consumption	9 W
Power supply	
For Oceania:	AC 50 Hz/60 Hz, 240 V
For F.R. Germany and Italy:	AC 50 Hz/60 Hz, 220 V
For others:	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W×H×D):	430×69×290 mm
	($16^{15}/_{16}$"×$2^{23}/_{32}$"×$11^{7}/_{16}$")
Weight:	2.4 kg (5.3 lb.)

Notes:
1. Specifications are subject to change without notice.
2. Weight and dimensions are approximate.
3. Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

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■ ACCESSORIES

- AC power supply cord 1
  For (EG) (EI) areas (SFDAC05E03)
  For (GC) only (RJA0004)
  For (GN) only (SJA193)
- Stereo pin cord 1
  (SJP2276)
- FM indoor antenna 1
  For (EG) (EI) areas (SSA270M)
  For (GC) (GN) areas (SSA272M)
- AM loop antenna Ass'y 1
  (SPB1163T)

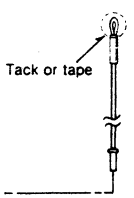
■ CONNECTIONS

Note: An outdoor antenna should be installed by a competent technician only.

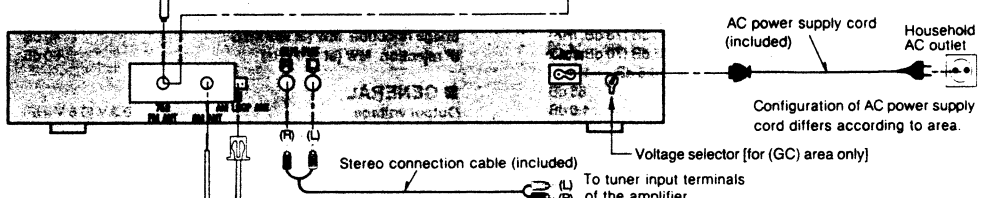
FM outdoor antenna (option)

(Necessary in mountainous regions, inside reinforced-concrete buildings, etc.)

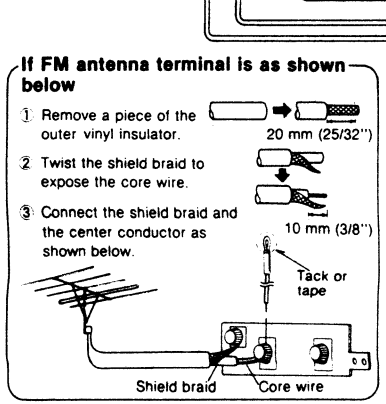
FM indoor antenna (included)



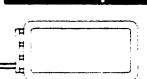
- Attach to a wall (using tack or tape) facing in direction of best reception.
- Tack should not contact internal antenna wire.
- For best reception sound quality, an FM outdoor antenna is recommended.
- Disconnect this antenna if an FM outdoor antenna is installed.


AC power supply cord (included)
Household AC outlet
Configuration of AC power supply cord differs according to area.
Voltage selector [for (GC) area only]
(R) (L)
Stereo connection cable (included)
(L)
(R)
To tuner input terminals of the amplifier

If FM antenna terminal is as shown below

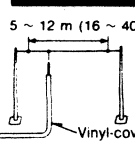

1 Remove a piece of the outer vinyl insulator.
20 mm (25/32")
2 Twist the shield braid to expose the core wire.
3 Connect the shield braid and the center conductor as shown below.
10 mm (3/8")
Tack or tape
Shield braid
Core wire

AM loop antenna (included)



If this antenna is not properly installed, AM broadcasts will not be received. Be sure to connect the AM loop antenna even when an outdoor antenna is used.

AM outdoor antenna (option)



(Necessary in mountainous regions, inside reinforced-concrete buildings, etc.) Use 5 ~ 12 m (16 ~ 40 ft.) of vinyl-covered wire horizontally at the window.

■ LOCATIONS OF CONTROLS

Power "standby ⏻ /on" switch (power/ ▬ standby ⏻ ▬ on)
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the standby ⏻ position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

Digital frequency display
The reception frequency of the FM or AM broadcast selected by using the tuning buttons or the preset-tuning buttons is indicated by a digital-type display.

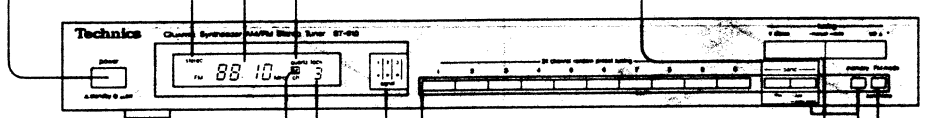
FM stereo indicator (stereo)
This indicator automatically illuminates when an FM stereo broadcast is being received.

Note:
It will not illuminate if the FM mode selector is set to the monaural mode.

Quartz-lock indicator (quartz lock)
This indicator illuminates when tuned precisely to an FM or AM station.

ST-610 | FM | AM

Band selectors (band)
FM:
Press this button to listen to an FM broadcast.
AM:
Press this button to listen to an AM broadcast.
allocation:
This button is also used to select a frequency step of either 9 kHz or 10 kHz. When the AM button is pressed for about 4 seconds, the AM frequency step will change to 10 kHz per step. (This step is set to 9 kHz before shipment.)
Set to the appropriate position for your locality.
In order to return to the original frequency indication, press this button for about 4 seconds again.



Memory indicator (M)
This indicator illuminates when the memory button is pressed.

Channel display
The channel number selected by the preset-tuning buttons is displayed.

Signal-strength indicators (signal)
These indicators show the relative strength of broadcast signals being received by the antenna. The best condition for reception, for FM and AM, is when the indicators illuminate completely to the right.

Tuning buttons (tuning)
These buttons are used for tuning to the desired broadcast station.

Memory button (memory)
This button is used when preset memory setting of the preset-tuning buttons is made.

FM mode selector (FM mode)
This unit automatically switches into the stereo mode when a stereo broadcast is received. Press this button to listen in the monaural mode. The stereo indicator will not illuminate in the monaural mode.

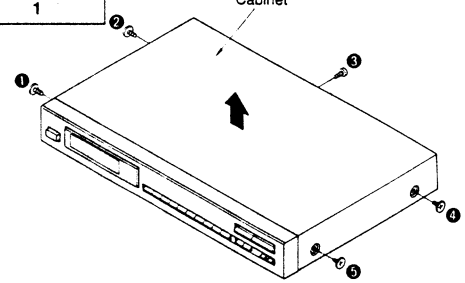
Preset-tuning buttons (1~0) (24 channel random preset tuning)
These buttons are used to preset FM and AM broadcast frequencies into the memory of this unit, and are also pressed to select the desired preset frequencies.

■ DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref. No. 1	Removal of the Cabinet

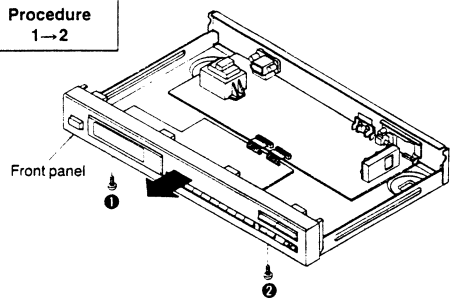
Procedure 1



●Remove the 5 screws (❶~❺).

Ref. No. 2	Removal of the Front Panel

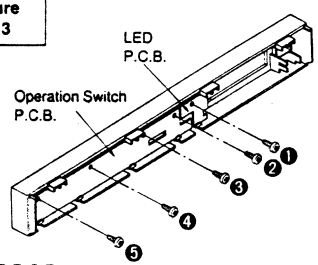
Procedure 1→2



1. Remove the 2 screws (❶, ❷).
2. Remove the front panel in the direction of the arrow.

Ref. No. 3	Removal of the Operation Switch P.C.B. and LED P.C.B.

Procedure 1→2→3

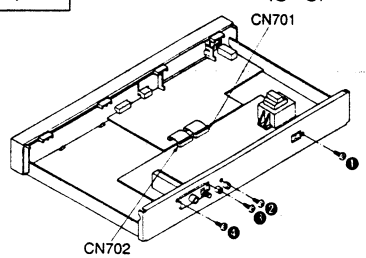


■ **LED P.C.B.**
●Remove the 1 screw (❶).
■ **Operation Switch P.C.B.**
●Remove the 4 screws (❷~❺).

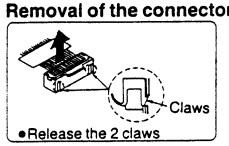
Ref. No. 4	Removal of the Main P.C.B.

Procedure 1→4

1. Remove the 2 connector (CN701, CN702).
2. Remove the 4 screws (❶~❹).



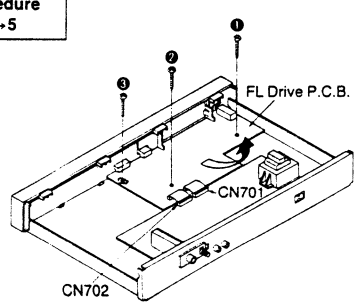
Removal of the connector



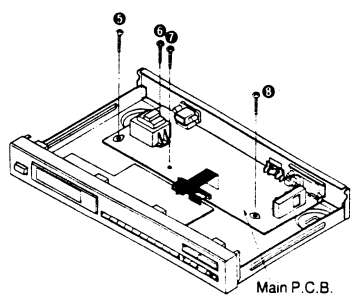
●Release the 2 claws

Ref. No. 5	Removal of the FL Drive P.C.B.

Procedure 1→5



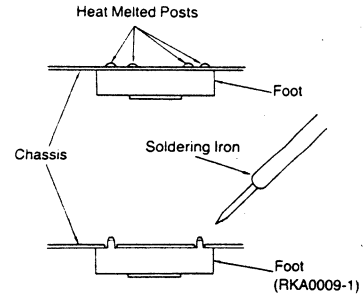
1. Remove the 2 connector (CN701, CN702).
2. Remove the 3 screws (❶~❸).
3. Remove the FL drive P.C.B. in the direction of the arrow.



3. Remove the 4 screws (❺~❽).
4. Remove the main P.C.B. in the direction of the arrow.

●Replacement of the Foot.

1. Remove the 4 heat melted posts on the chassis with a pair of nippers or similar tool.
2. To replace the foot (RKA0009-1) on the chassis, melt the 4 posts with a soldering iron.



■ MEASUREMENTS AND ADJUSTMENTS

■ FM ADJUSTMENT

Control positions and equipment used

- FM signal generator (FM-SG)
- Stereo modulator
- Distortion analyser
- Oscilloscope
- Choke coil (100μH)
- Resistor(100kΩ)
- Frequency counter
- DC electronic voltmeter(EVM)

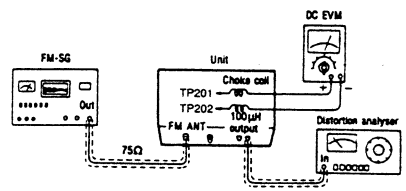
Note: For **Z201, L321, L322, L324** and **Z202**, they are supplied as adjusted parts. So, do not turn the cores of the parts.

FM MONO DISTORTION ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to **"FM"** mode.
3. Set the radio frequency display and signal generator to **100.10MHz.**
4. Adjust the core of **T201** so that the voltage measured in signal mode is **0mV (0±20 mV)** in 300 mV range.
5. Adjust **T202** so that the distortion factor of L-CH is minimized.
6. Repeat steps 4 and 5.
7. Make sure that the distortion factors of L-CH and R-CH are nearly the same and minimum.

Note: The adjusting screwdriver used should be made of resin.

FM SIGNAL GENERATOR CONDITION
Modulation 100%
Modulation frequency 1kHz
Output level 66dB



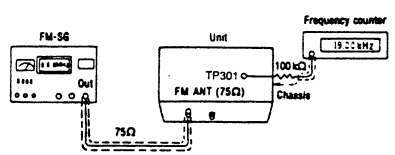
MPX VCO ADJUSTMENT

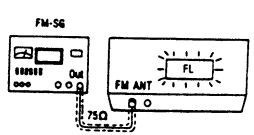
1. Test equipment connection is shown in figure.
2. Set the unit to "auto" position.
3. Set the radio frequency display and signal genarator to **100.10 MHz.**
4. Adjust **VR301** for **19kHz±30Hz** on frequency counter reading.

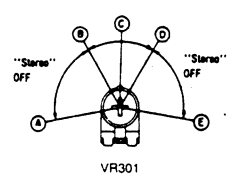
•USING ALTERNATE SYSTEM

1. Apply stereo signal from generator or receive the stereo broadcast.
2. Adjust **VR301** until stereo indicator lights up. Fix the arm of **VR301** as shown in figure.

FM SIGNAL GENERATOR CONDITION
Modulation 0%
Modulation frequency .....0 kHz
Output level 66dB







Ⓐ–Ⓑ,
Ⓓ–Ⓔ..... "Stereo" OFF position
Ⓑ–Ⓓ..... "Stereo" ON position (Indicator lighting)
Ⓒ..... Adjust point of pilot circuit

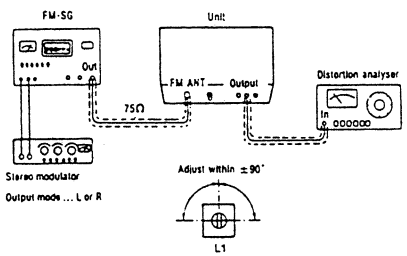
FM STEREO DISTORTION ADJUSTMENT

*for (EG) (EI) only

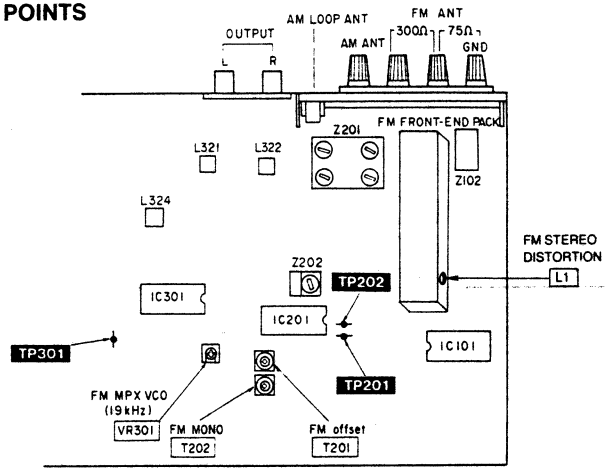
1. Test equipment connection is shown in figure.
2. Set the unit to "**FM**" mode.
3. Set the radio frequency display and signal generator to **100.10 MHz.**
4. Adjust L1 so that the distortion factor of L-CH is minimized.
5. Make sure that the distortion factors of L-CH and R-CH are nearly the same with each other to minimum.

Notes:
1. The adjusting screwdriver used should be made of resin.
2. L1 should be rotated no more 1/4 turn (90 deg.) on either side.

FM SIGNAL GENERATOR CONDITION
Modulation.....Stereo "L" mode or "R" mode 45%, Pilot 10%
Modulation frequency.....1kHz (Pilot 19kHz)
Output level.....66dB

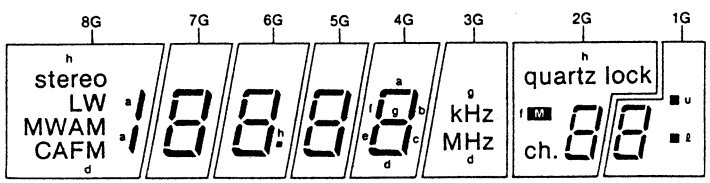


•ADJUSTMENT POINTS



■ DESCRIPTION OF FL PANEL [FL901 (SAD8MT10ZYK)]

• GRID ASSIGNMENT

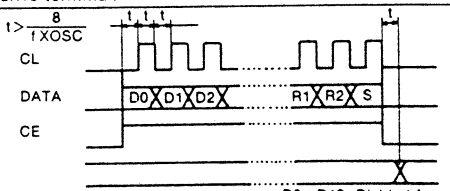


Note: The grid of 3G and 8G are used for external connection.

• PIN CONNECTION

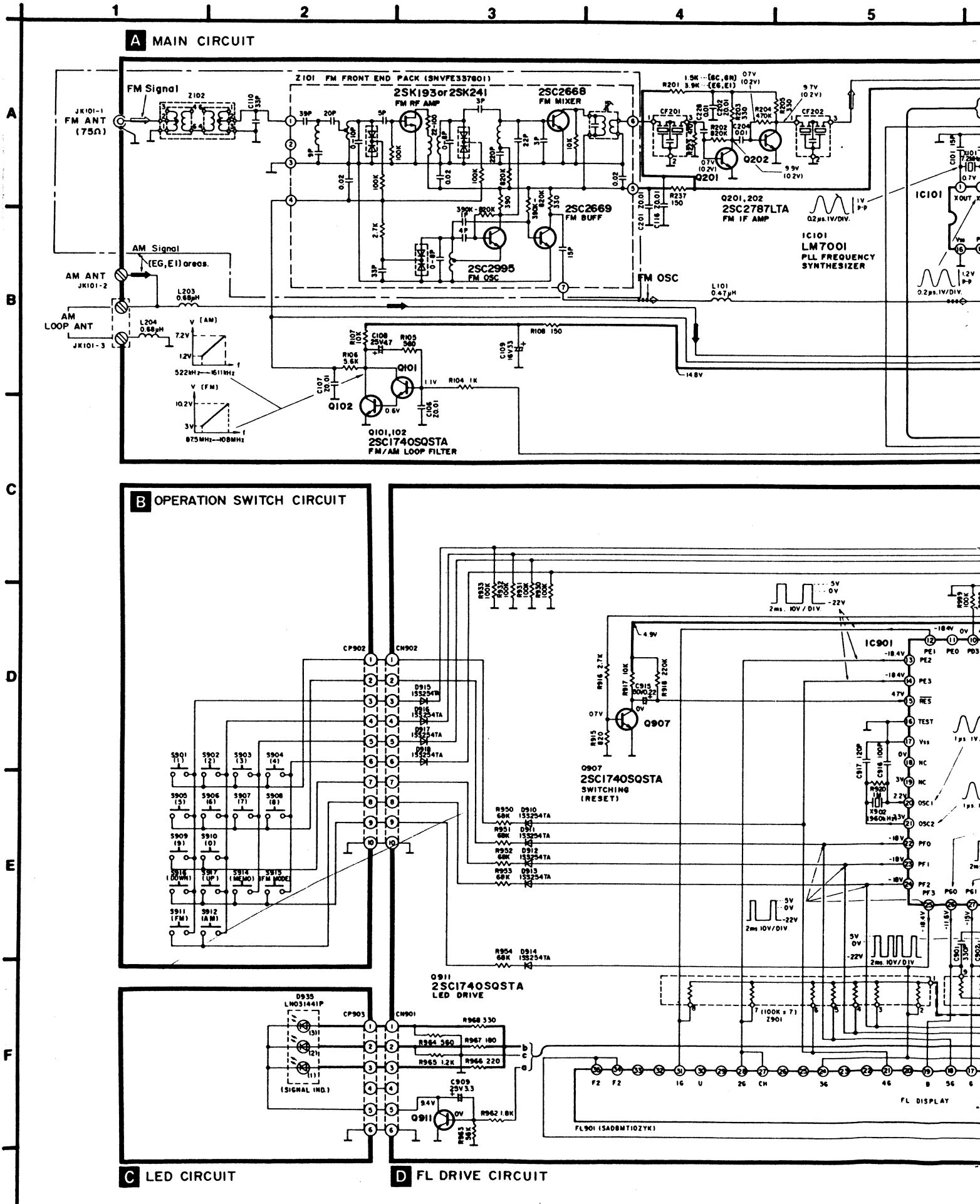
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CONNECTION	F1	F1	NP	h	f	8G	AM	MW	CA	LW	7G	c	a	6G	e	d	g	5G
PIN NO.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
CONNECTION	b	NP	4G	NP	NP	3G	NP	NP	ch	2G	NP	u	1G	ℓ	NP	F2	F2	

■ FUNCTIONS OF IC TERMINALS (IC901: LC6512A3997)

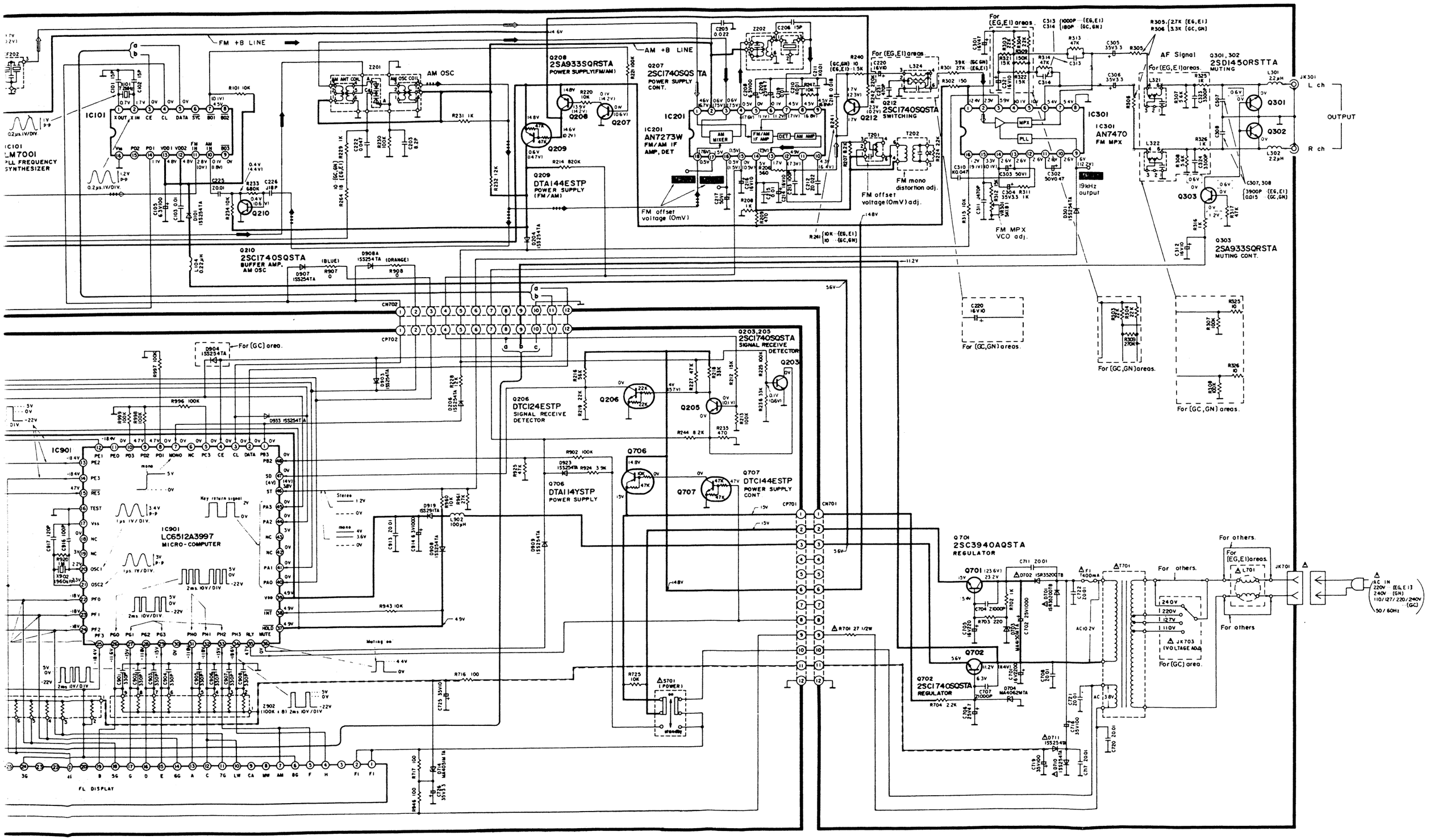
PIN NO.	IN/OUT	MARK	DESCRIPTION OF TERMINAL
1	INPUT	PB3	Computer drive terminal.
2	OUTPUT	DATA	Data output t > 8 / f XOSC  f XOSC: Crystal OSC D0~D13: Divided frequency data R0~R2: Reference frequency data
3		CL	
4		CE	
5	—	PC3	Not used in this unit.
6	—	NC	Not used in this unit.
7	OUTPUT	PD0	Auto/mono changeover terminal. (auto → 0V, mono → 5V)
8	OUTPUT	PD1	Computer drive terminal.
9	—	PD2	Not used in this unit.
10		PD3	
11		PE0	
12 ~ 14 • 22 ~ 25	OUTPUT	PE1 ~ PE3 • PF0 ~ PF3	Digital signal terminal for display. Terminal for key return signal to external key matrix.
15	INPUT	$\overline{RES}$	Reset terminal.
16	—	TEST	Ground terminal.
17		V_{SS}	
18	—	NC	Not used in this unit.
19			
20	INPUT	OSC1	Connecting terminal for crystal oscillator.
21	OUTPUT	OSC2	
26 ~ 29 • 31 ~ 34	OUTPUT	PG0 ~ PG3 • PH0 ~ PH3	Segment signal terminal for display.
30	—	NC	Not used in this unit.
35	—	NC	Not used in this unit.
36	OUTPUT	P11	Muting signal terminal. (Muting → High level)
37	INPUT	$\overline{HOLD}$	Terminal for power failure detection.
38	INPUT	$\overline{INT}$	Terminal for remote control cord.
39	INPUT	V_{DD}	Power supply terminal of device. Voltage of 5V is supplied during operation of device.
40 ~ 45	INPUT	PA0 ~ PA3	Terminal for key return signal to external key matrix. [KEY MATRIX]
42 • 43	—	NC	Not used in this unit.
46	INPUT	PB0 ~ PB2	Stereo signal terminal.
47			SD signal terminal.
48			Tuner select terminal. (Ground connection)

[KEY MATRIX]

Pin No.	45	44	41	40
14	CH4	CH3	CH2	CH1
22	CH8	CH7	CH6	CH5
23	—	—	CH0	CH9
24	—	—	AM	FM
25	MODE	MEMORY	UP	DOWN


A MAIN CIRCUIT
FM Signal
FM ANT (75Ω)
Z102
Z101 FM FRONT END PACK (SNVFE337801)
2SK193 or 2SK241
FM RF AMP
2SC2668
FM MIXER
2SC2669
FM BUFF
2SC2995
FM OSC
FM OSC
Q201
Q202
Q201,202
2SC2787LTA
FM IF AMP
IC101
LM7001
PLL FREQUENCY SYNTHESIZER
AM Signal
(EG,EI) areas.
AM ANT
JK101-2
AM LOOP ANT
JK101-3
L203 0.68μH
L204 0.68μH
Q101
Q102
Q101,102
2SC1740SQSTA
FM/AM LOOP FILTER
B OPERATION SWITCH CIRCUIT
S901 (1)
S902 (2)
S903 (3)
S904 (4)
S905 (5)
S906 (6)
S907 (7)
S908 (8)
S909 (9)
S910 (0)
S911 (FM)
S912 (AM)
S913 (DOWN)
S914 (UP)
S915 (MEMO)
S916 (FM MODE)
Q907
2SC1740SQSTA
SWITCHING (RESET)
Q911
2SC1740SQSTA
LED DRIVE
IC901
C LED CIRCUIT
D FL DRIVE CIRCUIT
D935
LN031441P
(SIGNAL IND.)
FL901 (SADBMT10ZYK)
FL DISPLAY

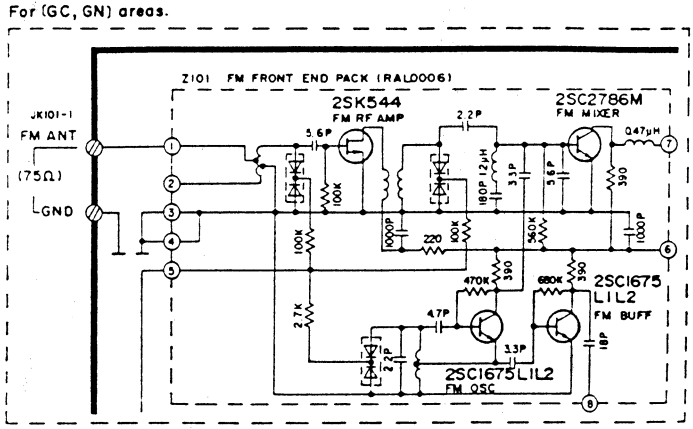
5 6 7 8 9 10 11 12 13 14



■ SCHEMATIC DIAGRAM (Parts list on pages 16~18)

(This schematic diagram may be modified at any time with the development of new technology.)

For (GC, GN) areas.



Notes:

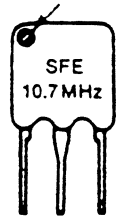
- **S701:** Power source switch in "**on**" position.
- **S901~910:** Preset tuning switches.
  S901: CH1, S902: CH2, S903: CH3, S904: CH4, S905: CH5, S906: CH6, S907: CH7, S908: CH8, S909: CH9, S910: CH0
- **S911~S913:** Band selector switches.
  (S911: FM, S912: AM)
- **S914:** Memory set switch.
- **S915:** FM mode selector switch.
- **S916, S917:** Tuning switches.
  (S916: down, S917: UP)
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage volues, depending on the internal impedance of the DC circuit tester.
  : AM voltage, : MUTING voltage
- Positive voltage lines, Negative voltage line, FM OSC, FM signal, AM OSC, AM signal, AF signal lines
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

•Use of ceramic filters in pairs

The ceramic filters (CF201, CF202) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair.

At repairing and replacement, pay close attention to the resistors (R907, R908) for use as different resistors must be used depending on each rank of the ceramic filters.

Color making
(Red, Blue or Orange)



RANK (Color)	R908	R907	CENTER FREQUENCY
Orange	○	×	10.72 MHz
Red	×	×	10.70 MHz
Blue	×	○	10.67 MHz

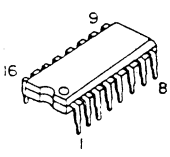
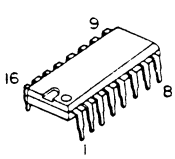
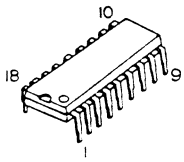
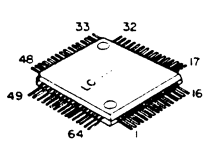
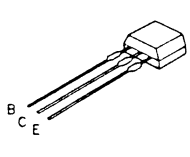
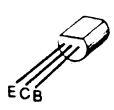
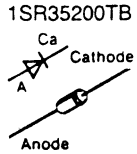
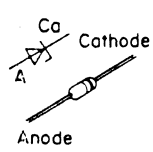
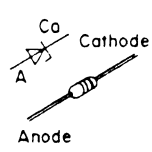
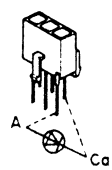
Note: ○ **mark:** Resistor is used.
× **mark:** Resistor is not used.

•Caution!

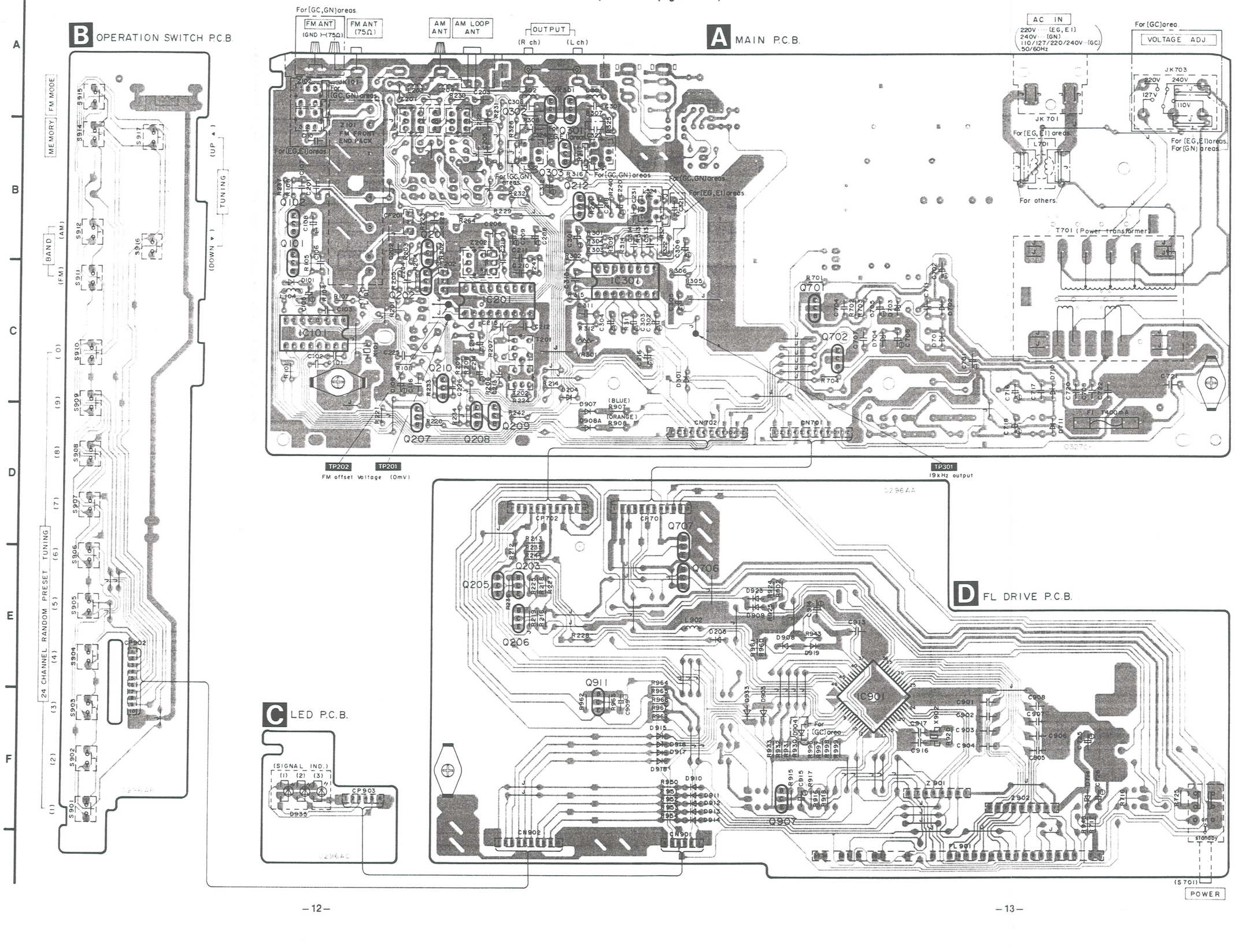
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminum coil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

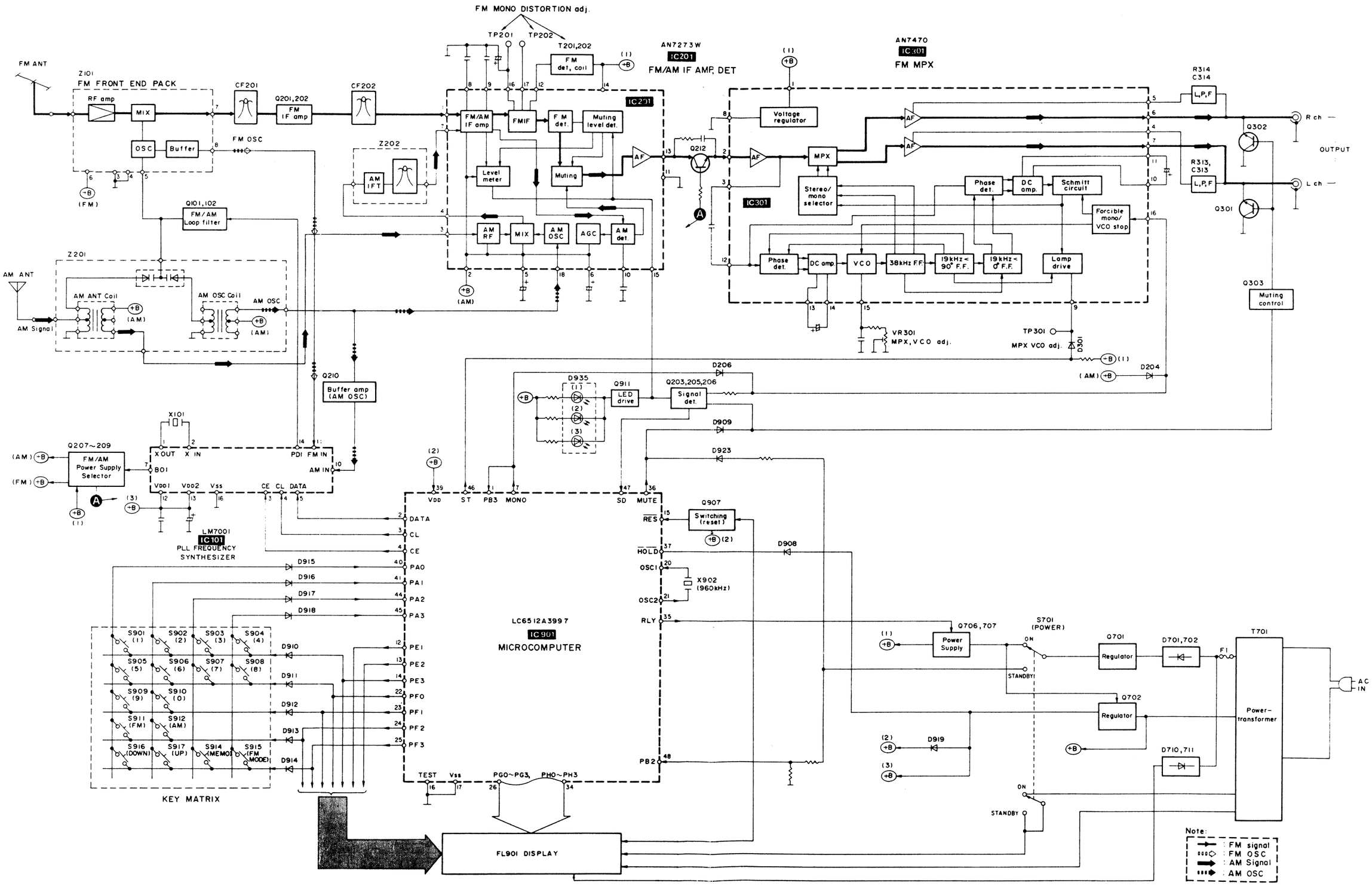
■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

LM7001 	AN7470 	AN7273W 	LC6512A3997 		2SA933SQRSTA 2SC1740SQSTA DTA114YSTP DTC114YSTP DTA144ESTP DTC124ESTP DTC144ESTP
2SC2787LTA 2SD1450RSTTA	2SC3940AQSTA 	1SS254TA 1SS291TA 1SR35200TB 	MA4150MTA 	MA4051MTA MA4062MTA 	LN031441P 

■ CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (Parts list on pages 16~18)



■ BLOCK DIAGRAM



■ REPLACEMENT PARTS LIST

Notes: *Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
*"K" mark parts are used for black type only.
*"S" mark parts are used for silver type only.
Parts other than "K" and "S" marked are used for all color types.
*[F]: Indicates parts that are supplied by PFS. (Panasonic France S.A. Longwy division).

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC101	LM7001	IC, PLL FREQUENCY	
IC201	AN7273W	IC, FM/AM IF AMP. DET	
IC301	AN7470	IC, FM MPX	
IC901	LC6512A3997	IC, MICROCOMPUTER	
		TRANSISTOR(S)	
Q101, 102	2SC1740SQSTA	TRANSISTOR	
Q201, 202	2SC2787LTA	TRANSISTOR	
Q203	2SC1740SQSTA	TRANSISTOR	
Q205	2SC1740SQSTA	TRANSISTOR	
Q206	DTC124ESTP	TRANSISTOR	
Q207	2SC1740SQSTA	TRANSISTOR	
Q208	2SA933SQRSTA	TRANSISTOR	
Q209	DTA144ESTP	TRANSISTOR	
Q210	2SC1740SQSTA	TRANSISTOR	
Q212	2SC1740SQSTA	TRANSISTOR	
Q301, 302	2SD1450RSTTA	TRANSISTOR	
Q303	2SA933SQRSTA	TRANSISTOR	
Q701	2SC3940AQSTA	TRANSISTOR	
Q702	2SC1740SQSTA	TRANSISTOR	
Q706	DTA114YSTP	TRANSISTOR	
Q707	DTC144ESTP	TRANSISTOR	
Q907	2SC1740SQSTA	TRANSISTOR	
Q911	2SC1740SQSTA	TRANSISTOR	
		DIODE(S)	
D101	1SS254TA	DIODE	
D204	1SS254TA	DIODE	
D206	1SS254TA	DIODE	
D301	1SS254TA	DIODE	
D701, 702	1SR35200TB	DIODE	⚠
D703	MA4150MTA	DIODE	
D704	MA4062MTA	DIODE	
D710, 711	1SS254TA	DIODE	⚠
D714	MA4051MTA	DIODE	
D903	1SS254TA	DIODE	
D904	1SS254TA	DIODE	(GC)
D907, 908A	1SS254TA	DIODE	
D908-918	1SS254TA	DIODE	
D919	1SS291TA	DIODE	
D923	1SS254TA	DIODE	
D933	1SS254TA	DIODE	
D935	LN031441P	L.E.D.	
		VARIABLE RESISTOR(S)	
VR301	EVNDXAA00B53	V.R. FM MPX VCO ADJ.	
		COMPONENT COMBINATION(S)	
Z101	SNVFE337G01	COMPONENT COMBINATION	(EG, EI)
Z101	RALO006	COMPONENT COMBINATION	(GC, GN)
Z102	SLA4Z13M-Z	COMPONENT COMBINATION	(EG, EI)
Z201	RLA2Z001M-T	COMPONENT COMBINATION	
Z202	RL122003M-T	COMPONENT COMBINATION	
Z901	EXBF8E104J	COMPONENT COMBINATION	
Z902	EXBF9E104J	COMPONENT COMBINATION	
		CERAMIC FILTER(S)	
CF201	RLFKTF2M01LA	CERAMIC FILTER	(RED)
CF201	RLFKTF2M01LB	CERAMIC FILTER	(BLUE)
CF201	RLFKTF2M01LC	CERAMIC FILTER	(ORANGE)
CF202	RLFKTF2M01LA	CERAMIC FILTER	(RED)
CF202	RLFKTF2M01LB	CERAMIC FILTER	(BULE)
CF202	RLFKTF2M01LC	CERAMIC FILTER	(ORANGE)
		COIL(S)	
L101	RLQZPR47KT-Y	COIL	
L104	RLQZPR22KT-Y	COIL	
L203, 204	ELEPKR68MA	COIL	
L301, 302	RLQZP2R2KT-Y	COIL	
L321, 322	RLM2B003M-K	COIL	(EG, EI)
L324	SLM1B10M-M	COIL	(EG, EI)
L701	RLQZ600M-W	COIL	(EG, EI)
L902	RLQZP101KT-Y	COIL	
		TRANSFORMER(S)	
T201	RL14B002M-Z	TRANSFORMER	
T202	RL14B003M-Z	TRANSFORMER	
T701	RTP1K4E011	POWER TRANSFORMER	⚠(EG, EI, GN)
T701	RTP1K4E012	POWER TRANSFORMER	⚠(GC)

Ref. No.	Part No.	Part Name & Description	Remarks
		OSCILLATOR(S)	
X101	SVQ49U722T-S	OSCILLATOR	
X902	EF0A960KD4A	OSCILLATOR	
		DISPLAY TUBE	
FL901	SAD8MT10ZYK	DISPLAY TUBE	
		SWITCH(ES)	
S701	RSP3B001-J	SW, POWER	⚠
S901	EVQ21405R	SW, CH1	
S902	EVQ21405R	SW, CH2	
S903	EVQ21405R	SW, CH3	
S904	EVQ21405R	SW, CH4	
S905	EVQ21405R	SW, CH5	
S906	EVQ21405R	SW, CH6	
S907	EVQ21405R	SW, CH7	
S908	EVQ21405R	SW, CH8	
S909	EVQ21405R	SW, CH9	
S910	EVQ21405R	SW, CH0	
S911	EVQ21405R	SW, BAND FM	
S912	EVQ21405R	SW, BAND AM	
S914	EVQ21405R	SW, MEMORY	
S915	EVQ21405R	SW, FM MODE	
S916	EVQ21405R	SW, TUNING DOWN	
S917	EVQ21405R	SW, TUNING UP	
JK703	SSR187-1	SW, VOLTAGE SELECTOR	⚠(GC)

Ref. No.	Part No.	Part Name & Description	Remarks
		JACK(S)	
JK101	RJH4202	ANTENNA TERMINAL	(EG, EI)
JK101	RJH4405-1	ANTENNA TERMINAL	(GC, GN)
JK301	RJH3201N	OUTPUT TERMINAL	
JK701	SJS9236	AC OUTLET	⚠(EG, EI, GC)
JK701	SJSD16	AC OUTLET	⚠(GN)
JK704	EYF52BC	FUSE HOLDER	⚠
JK705	EYF52BC	FUSE HOLDER	⚠
CN701, 702	RJU005W012	SOCKET(12P)	
CN901	RJU003K006M1	SOCKET(6P)	
CN902	RJU003K010M1	SOCKET(10P)	
CP701, 702	RJT005W012	CONNECTOR(12P)	
CP902	RJT003K010M1	CONNECTOR(10P)	
CP903	RJT003K006M1	CONNECTOR(6P)	
		FUSE	
F1	XBA2C04TB0	FUSE 250V 0.4A	⚠

Notes : • Capacity valuse are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
• Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R101	ERDS2TJ103T	1/4W 10K
R104	ERDS2TJ102T	1/4W 1K
R105	ERDS2TJ561T	1/4W 560
R106	ERDS2TJ562T	1/4W 5.6K
R107	ERDS2TJ103T	1/4W 10K
R108	ERDS2TJ151T	1/4W 150
R201	ERDS2TJ392T	1/4W 3.9K (EG, EI)
R201	ERDS2TJ152T	1/4W 1.5K (GC, GN)
R202	ERDS2TJ824T	1/4W 820K
R203	ERDS2TJ331T	1/4W 330
R204	ERDS2TJ474T	1/4W 470K
R205	ERDS2TJ331T	1/4W 330
R206	ERDS2TJ561T	1/4W 560

Ref. No.	Part No.	Values & Remarks
R207	ERDS2TJ822T	1/4W 8.2K
R208	ERDS2TJ102T	1/4W 1K
R209	ERDS2TJ471T	1/4W 470
R212	ERDS2TJ153T	1/4W 15K
R213	ERDS2TJ104T	1/4W 100K
R214	ERDS2TJ824T	1/4W 820K
R216	ERDS2TJ563T	1/4W 56K
R218	ERDS2TJ333T	1/4W 33K
R219	ERDS2TJ223T	1/4W 22K
R220	ERDS2TJ103T	1/4W 10K
R221	ERDS2TJ104T	1/4W 100K
R223	ERDS2TJ471T	1/4W 470
R224	ERDS2TJ222T	1/4W 2.2K
R225	ERDS2TJ104T	1/4W 100K
R227	ERDS2TJ473T	1/4W 47K
R228	ERDS2TJ123T	1/4W 12K

Ref. No.	Part No.	Values & Remarks
R229	ERDS2TJ102T	1/4W 1K
R230	ERDS2TJ104T	1/4W 100K
R231	ERDS2TJ102T	1/4W 1K
R232	ERDS2TJ122T	1/4W 1.2K
R233	ERDS2TJ684T	1/4W 680K
R234	ERDS2TJ103T	1/4W 10K
R235	ERDS2TJ471T	1/4W 470
R236	ERDS2TJ333T	1/4W 33K
R237	ERDS2TJ151T	1/4W 150
R240	ERDS2TJ152T	1/4W 1.5K (EG, EI)
R240	ERDS2TJ100T	1/4W 10 (GC, GN)
R241	ERDS2TJ103T	1/4W 10K (EG, EI)
R241	ERDS2TJ100T	1/4W 10 (GC, GN)
R242	ERDS2TJ224T	1/4W 220K
R244	ERDS2TJ822T	1/4W 8.2K
R247	ERDS2TJ103T	1/4W 10K

Ref. No.	Part No.	Values & Remarks
R264	ERDS2TJ180T	1/4W 18 (EG, EI)
R264	ERDS2TJ100T	1/4W 10 (GC, GN)
R301	ERDS2TJ273T	1/4W 27K (EG, EI)
R301	ERDS2TJ393T	1/4W 39K (GC, GN)
R302	ERDS2TJ151T	1/4W 150
R303, 304	ERDS2TJ223T	1/4W 22K
R305, 306	ERDS2TJ272T	1/4W 2.7K (EG, EI)
R305, 306	ERDS2TJ332T	1/4W 3.3K (GC, GN)
R307, 308	ERDS2TJ562T	1/4W 5.6K (EG, EI)
R307, 308	ERDS2TJ104T	1/4W 100K (GC, GN)
R309	ERDS2TJ154T	1/4W 150K (EG, EI)
R309	ERDS2TJ274T	1/4W 270K (GC, GN)
R311	ERDS2TJ102T	1/4W 1K
R312	ERDS2TJ153T	1/4W 15K
R313, 314	ERDS2TJ473T	1/4W 47K
R315	ERDS2TJ103T	1/4W 10K
R316	ERDS2TJ102T	1/4W 1K
R317	ERDS2TJ473T	1/4W 47K
R321, 322	ERDS2TJ153T	1/4W 15K (EG, EI)
R325, 326	ERDS2TJ102T	1/4W 1K (EG, EI)
R325, 326	ERDS2TJ100T	1/4W 10 (GC, GN)
R701	ERDS1FVJ270T	1/2W 27 ⚠
R702	ERDS2TJ102T	1/4W 1K
R703	ERDS2TJ221T	1/4W 220
R704	ERDS2TJ222T	1/4W 2.2K
R716, 717	ERDS2TJ101T	1/4W 100
R725	ERDS2TJ103T	1/4W 10K
R902	ERDS2TJ104T	1/4W 100K
R907, 908	ERD25V0R00T	1/4W 0
R915	ERDS2TJ821T	1/4W 820
R916	ERDS2TJ272T	1/4W 2.7K
R917	ERDS2TJ103T	1/4W 10K
R918	ERDS2TJ224T	1/4W 220K
R920	ERDS2TJ105T	1/4W 1M
R924	ERDS2TJ392T	1/4W 3.9K
R925	ERDS2TJ473T	1/4W 47K
R930-933	ERDS2TJ104T	1/4W 100K
R943	ERDS2TJ103T	1/4W 10K
R946	ERDS2TJ101T	1/4W 100
R950-954	ERDS2TJ683T	1/4W 68K
R960	ERDS2TJ103T	1/4W 10K
R961	ERDS2TJ273T	1/4W 27K
R962	ERDS2TJ182T	1/4W 1.8K
R963	ERDS2TJ563T	1/4W 56K
R964	ERDS2TJ561T	1/4W 560
R965	ERDS2TJ122T	1/4W 1.2K
R966	ERDS2TJ221T	1/4W 220
R967	ERDS2TJ181T	1/4W 180
R968	ERDS2TJ331T	1/4W 330
R996-999	ERDS2TJ104T	1/4W 100K
		CAPACITORS

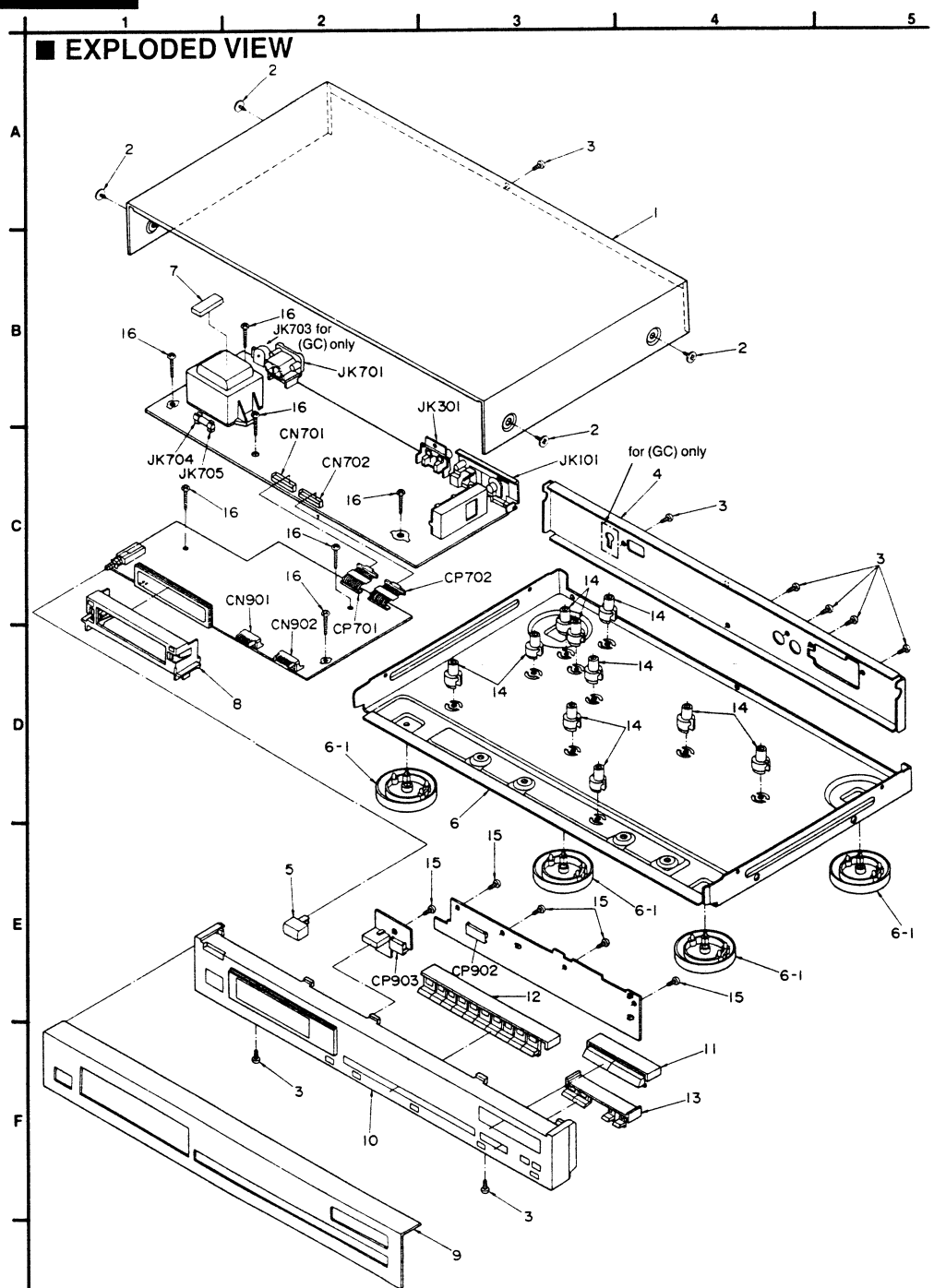
Ref. No.	Part No.	Values & Remarks
C101, 102	ECBT1H150JC5	50V 15P
C103	ECBT1C103NS5	16V 0.01U
C105	ECEA0JU101B	6.3V 100U
C106, 107	ECKR1H103ZF5	50V 0.01U
C108	ECEA1EK4R7B	25V 4.7U
C109	ECEA1CU330B	16V 33U
C110	ECBT1H330J5	50V 33P (EG, EI)
C116	ECKR1H103ZF5	50V 0.01U
C201, 202	ECKR1H103ZF5	50V 0.01U
C203	ECBT1H8R2KC5	50V 8.2P
C204	ECBT1C103NS5	16V 0.01U
C205	ECKR1H223ZF5	50V 0.022U
C206	ECBT1H150JC5	50V 15P
C208	ECEA0JU101B	6.3V 100U
C209	ECEA1EK4R7B	25V 4.7U
C210, 211	ECFR1E103KR	25V 0.01U
C212	ECBT1E223ZF5	25V 0.022U
C213	ECBT1H101KB5	50V 100P
C214	ECEA1CK100B	16V 10U
C215	ECBT1C103NS5	16V 0.01U
C216	ECEA1CK100B	16V 10U
C217	ECEA1HK010B	50V 1U
C218	ECFR1E183KR	25V 0.018U
C219	ECBT1C103NS5	16V 0.01U
C220	ECEA1CK100B	16V 10U
C222	ECFR1E473KR	25V 0.047U
C225	ECBT1C103NS5	16V 0.01U
C226	ECBT1H180JC5	50V 18P
C228	ECBT1C103NS5	16V 0.01U
C231	ECBT1H471KB5	50V 470P (EG, EI)
C301	ECEA1CU470B	16V 47U
C302	ECEA1HKR47B	50V 0.47U
C303	ECEA1HK010B	50V 1U
C304-306	ECEA1VK3R3B	35V 3.3U
C307, 308	ECFR1E392KR	25V 3900P (EG, EI)
C307, 308	ECFR1E153KR	25V 0.015U (GC, GN)
C310	ECFR1E473KR	25V 0.047U
C311	ECQP1471JZ3	50V 470P
C312	ECEA1CK100B	16V 10U
C313, 314	ECBT1H102KB5	50V 1000P (EG, EI)
C313, 314	ECBT1H181KB5	50V 180P (GC, GN)
C321	ECEA1CK100B	16V 10U (EG, EI)
C323, 324	ECFR1E332KR	25V 3300P (EG, EI)
C701	ECEA1CU222YB	16V 2200U
C702	ECEA1EU102B	25V 1000U
C704	ECKR1H102ZF5	50V 1000P
C705	ECEA1CU221B	16V 220U
C706	ECEA1EK4R7B	25V 4.7U
C707	ECKR1H102ZF5	50V 1000P
C708	ECKR1H103ZF5	50V 0.01U
C711	ECKR1H103ZF5	50V 0.01U

Ref. No.	Part No.	Values & Remarks
C716	ECEA1VU101B	35V 100U
C717	ECKR1H103ZF5	50V 0.01U
C719	ECEA1VU101B	35V 100U
C720-722	ECKR1H103ZF5	50V 0.01U
C725	ECEA1VK100B	35V 10U
C726	ECEA1VK3R3B	35V 3.3U
C901-908	ECKR1H331KB5	50V 330P
C909	ECEA1EK3R3B	25V 3.3U
C913	ECKR1H103ZF5	50V 0.01U
C914	ECEA0JU102B	6.3V 1000U
C915	ECEA1HKR22B	50V 0.22U
C916	ECBT1H101KB5	50V 100P
C917	ECBT1H121KB5	50V 120P

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKMD032-K	CABINET	K
1	RKMD032-S	CABINET	S
2	SNE2129-1	SCREW	K
2	SNE2129	SCREW	S
3	XTBS3+8JFZ1	SCREW	
4	RGRD081D-B	REAR PANEL	(EG)
4	RGRD081D-D	REAR PANEL	(E1) F
4	RGRD081E-A	REAR PANEL	(GC)
4	RGRD081D-F	REAR PANEL	(GN)
5	RGUD030	POWER BUTTON	K
5	RGUD030-S	POWER BUTTON	S
6	RFKJT610LE-K	CHASSIS ASS'Y	
6-1	RKAD009-1	FOOT	
7	RMGD145	RUBBER	
8	RMRD277	FL HOLDER	
9	RFKGT610EG-K	FRONT PANEL ASS'Y	K
9	RFKGT610EG-S	FRONT PANEL ASS'Y	S
10	RFKNT610EG-K	FRONT GRILL ASS'Y	K
10	RFKNT610EG-S	FRONT GRILL ASS'Y	S
11	RGUD357-K	TUNING BUTTON	K
11	RGUD357-S	TUNING BUTTON	S
12	RGUD358-K	CHANNEL BUTTON	K
12	RGUD358-S	CHANNEL BUTTON	S
13	RGUD360-K	MODE BUTTON	K
13	RGUD368-S1	MODE BUTTON	S
14	SHE187-2	HOLDER	
15	XTBS26+8J	SCREW	
16	XTB3+20JFZ	SCREW	

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIAL	
P1	RPGD495	CARTON BOX	K (EG, GC, GN)
P1	RPGD496	CARTON BOX	S (EG)
P1	RPGD497	CARTON BOX	(E1) F
P2	RPND325	PAD	(EG, GC, GN)
P2	RPND124-1	PAD	(E1) F
P3	SPSD152	ACCESSORIES BOX	
P4	XZB52X60A01Z	PROTECTION COVER	
		ACCESSORIES	
A1	RQAD013	WARRANTY CARD	(EG, E1)
A1	SQX7186	WARRANTY CARD	(GN)
A2	RQCB0169	SERVICENTOR LIST	
A3	RQTD519-D	INSTRUCTIONS MANUAL	(EG)
A3	RQTD522-V	INSTRUCTIONS MANUAL	(E1) F
A3	RQTD520-G	INSTRUCTIONS MANUAL	(GC, GN)
A4	SFDAC05ED3	POWER CORD	⚠ (EG, E1)
A4	RJAD004	POWER CORD	⚠ (GC)
A4	SJA173	POWER CORD	⚠ (GN)
A5	SJP2276	STEREO PIN CORD	
A6	SPB1163T	AM LOOP ANTENNA ASS'Y	
A6-1	SMA233-1M	HOLDER	
A6-2	XTN3+10AFZ	SCREW	
A7	SSA270M	FM ANTENNA	(EG, E1)
A7	SSA272M	FM ANTENNA	(GC, GN)
A8	SJP9215	ATTACHMENT PLUG	⚠ (GC)
A9	RQCS0009	CAUTION NOTE for FTZ	(EG)

■ EXPLODED VIEW



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ORDER NO. AD9005116C8-A

QUARTZ Synthesizer
AM/FM Stereo Tuner

TUNER
ST-610

DEUTSCH

■ MESSUNGEN UND JUSTIERUNGEN

UKW JUSTIERUNGEN

Einstellungen der Bedienelemente und zu verwendende Geräte.

- UKW-Messender(UKW-MS)
- Stereo-Modulator
- Verzerrungs-Analystator
- Elektronische Gleichstrom-Voltmeter(EVM)
- Frequenzzähler
- Drosselspule(100µH)
- Widerstand(100kΩ)

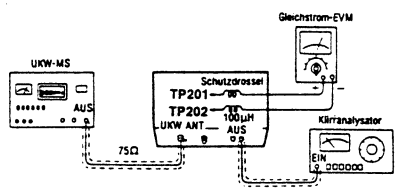
Anmerkung: Für Z102, Z201, Z202, L321, L322 und L324 werden bereits justierte Ersatzteile geliefert. Die Kerne dieser Teile daher nicht drehen.

UKW-MONO-VERZERRUNGS-JUSTIERUNG

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Stellen Sie die Einheit auf **"FM(UKW)"** Betrieb.
3.Die Radiofrequenzanzeige und den Messender auf **100.10MHz** einstellen.
4.Den Kern von **T201** so justieren, daß die im Signalzustand gemessene Spannung **0mV (0±20mV)** im 300mV-Bereich beträgt.
5.**T202** so justieren, daß der Verzerrungsfaktor des linken Kanals minimal wird.
6.Schritte 4 und 5 einige Male wiederholen.
7.Versichern Sie sich, daß die Verzerrungsfaktoren von Kanal L und Kanal R annähernd gleich sind und auf ein Minimum gehalten sind.

Anmerkung:
Für die Justierung ist ein Schraubendreher aus Kunststoff zu verwenden.

ZUSTAND DES UKW-MESSENDERS
Modulation 100%
Modulationsfrequenz 1kHz
Ausgangspegel 66dB



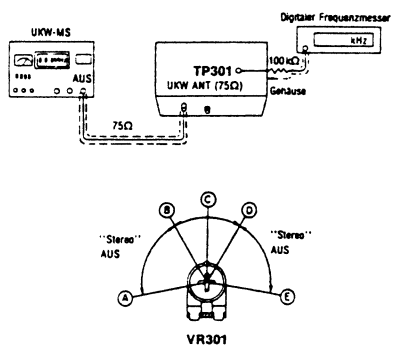
MPX-SGO-JUSTIERUNG

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Den UKW-Bertriebsart-Wahlshalter in die **"on/auto"** Position stellen.
3.Radio und Meßsender auf **100.10MHz** einstellen.
4.**VR301** auf **19kHz ± 30Hz** auf der Frequenzzähleranzeige justieren.

● VERWENDUNG EINES ALTERNATIVSYSTEMS

1.Stereosignal vom Meßsender eingeben oder eine Stereo-Sendung empfangen.
2.**VR301** justieren, bis die Stereo-Anzeige aufleuchtet. Den Arm von **VR301** mit Lack sichern, wie in der Abbildung gezeigt.

ZUSTAND DES UKW-MESSENDERS
Modulation 100%
Modulationsfrequenz 0kHz
Ausgangspegel 66dB



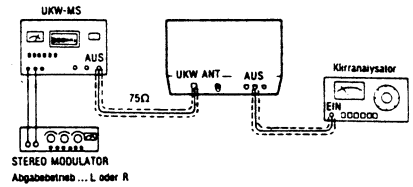
Ⓐ−Ⓑ,
Ⓓ−Ⓔ..... "Stereo" AUS Stellung
Ⓑ−Ⓓ..... "Stereo" EIN Stellung (Anzeigebeleuchtung)
Ⓒ..... Einstellpunkt des pilotschaltkreis'

UKW STEREO KLIRRFAKTOR-JUSTIERUNG

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Stellen Sie die Einheit auf **"FM(UKW)"** Betrieb.
3.Die Radiofrequenzanzeige und den Messender auf **100.10MHz** einstellen.
4.**L1** so justieren, daß der Verzerrungsfaktor des linken Kanals minimal wird.
5.überprüfen, daß die Verzerrungsfaktoren des linken und rechten Kanals fast gleich sind.

Anmerkung:
Für die Justierung ist ein Schraubendreher aus Kunststoff zu verwenden.

ZUSTAND DES UKW-MESSENDERS
Modulation .....100%, Pilotssignal 10%
Modulationsfrequenz .....1kHz(Pilot 19kHz)
Ausgangspegel 66dB



FRANÇAIS

■ MEAURAGES ET REGLAGES

M.F. REGLAGES

Positionnements des commandes et équipement utilisé

- Générateur de signaux M.F.(FG-SG)
- Modulateur stéréophonique
- Analyseur de distorsion
- Voltmètre électronique à C.C. (EVM).
- Compteur de fréquence
- Bobine d'amortissement d'arrêt (100µH)
- Résistance (100KΩ)

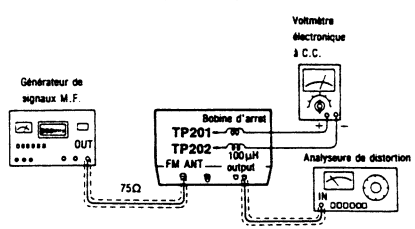
Nota: Pour Z102, Z201, Z202, L321, L322 et L324, ajuster les éléments qui sont fournis. Aussi, ne pas tourner les noyaux de ces éléments.

REGLAGE DE DISTORSION MONOPHONIQUE M.F.

1.Le raccordement de l'équipement d'essai est montré sur l'illustration.
2.Régler l'appareil sur le mode **"FM"**.
3.Ajuster le réglage de l'affichage de radiofréquence et du générateur de signaux sur **100.10MHz**.
4.Régler le noyau de **T201** de telle sorte que la tension mesurée sur le mode de signaux soit de **0mV (0mV ± 20mV)** dans une plage de 300mV.
5.Ajuster **T202** de telle que le facteur de sistorsion du canal de gauche soit minimisé.
6.Répéter les étapes 4 et 5 quelques fois.
7.S'assurer que les facteurs de distorsion du canal de gauche et du canal de droite soient sensiblement les mêmes et au minimum.

Nota: Le tournevis de réglage utilisé devra être fait en résines.

CONDITION DU GENERATEUR DE SIGNAUX M.F.
Modulation 100%
Fréquenz de modulation....1kHz
Niveau de sortie.....66dB

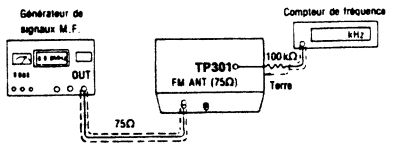


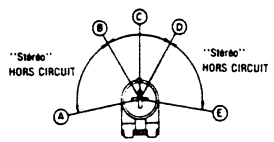
REGLAGE MULTIPLEX DE L'OSCILLATEUR COMMANDE PAR VARIATION DE TENSION

1.Le raccordement de l'équipement d'essai est montré sur la figure.
2.Régler l'appareil sur la position **"on/auto"**.
3.Régler le cadran radio et le générateur de signaux sur **100.10MHz**.
4.Ajuster **VR301** pour **19kHz ± 30Hz** sur le compteur de lecture de fréquences.

● EN UTILISANT UN SYSTEME ALTERNATIF

1.Applique un signal stéréo à partir du générateur ou recevoir une émission stéréo.
2.Ajuster **VR301** jusqu' à ce que l'indicateur stéréo s éclaire. Coller le bras de **VR301** comme il montré sur la figure.





VR301

CONDITION DU GENERATEUR DE SIGNAUX M.F.
Modulation 100%
Fréquenz de modulation 0kHz
Niveau de sortie.....66dB

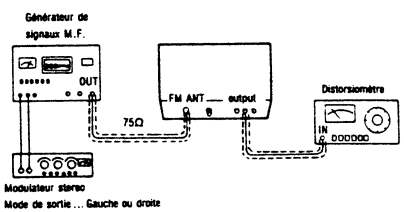
Ⓐ−Ⓑ,
Ⓓ−Ⓒ..... Position de HORS CIRCUIT "Stereo".
Ⓑ−Ⓓ..... Position de MISE EN CIRCUIT "Stereo". (Eclairage de l'indicateur)
Ⓒ..... Point de réglage du circuit pilote.

AJUSTEMENT DE LA DISTORSION STEREO M.F.

1.Le raccordement de l'équipement d'essai est montré sur l'illustration.
2.Régler l'appareil sur le mode **"FM"**.
3.Ajuster le réglage de l'affichage de radiofréquence et du générateur de signaux sur **100.10MHz**.
4.Ajuster **L1** de telle que le facteur de distorsion du canal de gauche soit minimisé.
5.Sássurer que les facteurs de distorsion du canal de gauche et du canal de droite soient sensiblement les mêmes l'un par rapport à l'autre.

Nota: Le tournevis de réglage utilisé devra être fait en résines.

CONDITION DU GENERATEUR DE SIGNAUX M.F.
Modulation .....Mode"G" ou mode"D" à 90%, Signal de commande à 10%
Fréquenz de modulation ....1kHz,Pilot(19kHz)
Niveau de sortie.....66dB



ESPAÑOL

■ MEDICIONES Y AJUSTES

FM AJUSTES

Posiciones de control y equipo usado

- Generador de señales de FM(FM-SG)
- Modulador estéreo
- Analizador de distorsiones
- Voltímetro electrónico de CC(EVM)
- Frecuencímetro
- Bobina de choque(100μH)
- Resistor(100kΩ)

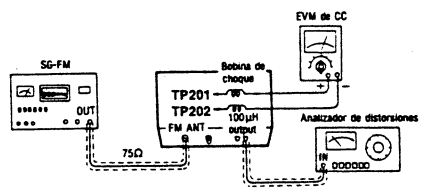
Nota: Para Z102, Z201, Z202, L321, L322 y L324, se suministran piezas ajustadas. Por lo tanto, no cambie los núcleos de estas piezas.

AJUSTE DE DISTORSION MONO FM

1.La conexión del equipo de pruebas se muestra en la figura.
2.Poner la unidad en modalidad de **"FM"**.
3.Poner la puesta de la presentación de radiofrecuencia y generador de señales a **100,10MHz.**
4.Ajustar el núcleo de **T201** de manera que el voltaje medido en modalidad de señal sea **0mV (0±20mV).**
5.Ajustar **T202** de manera que el factor de distorsión de CH-I se minimice.
6.Repetir los pasos 4 y 5 algunas veces.
7.Asegurarse de que los factores de distorsión de CH-I y CH-D sean casi los mismos y los mínimos.

Nota:
El destornillador de ajuste usado debe estar hecho de resina.

CONDICION DE GENERADOR DE SEÑALES DE FM
Modulación 100%
Frecuencia de modulación 1kHz
Nivel de salida 66dB



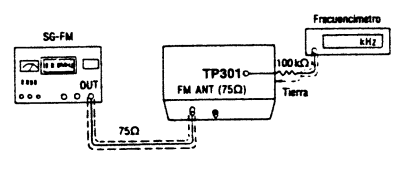
AJUSTE DE MPX VCO(OSCILADOR CONTROLADO POR VOLTAJE MPX)

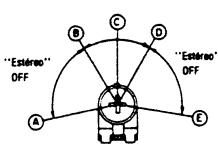
1.La conexión del equipo de pruebas se muestra en la figura.
2.Poner la unidad en la posición de **"on/auto"**.
3.Poner la presentación de la radio y la puesta del generador de señales en **100.10MHz.**
4.Ajustar **VR301** para **19kHz±30Hz** en lectura de frecuencímetro.

*** USANDO SISTEMA ALTERNATIVO**

1.Aplicar señal estereofónica del generador o recibir la emisión estereofónica.
2.Ajustar **VR301** hasta que la presentacón de estéro se encienda. Fijar el brazo de **VR301** como se muestra en la figura.

CONDICION DE GENERADOR DE SEÑALES DE FM
Modulación 100%
Frecuencia de modulación 0kHz
Nivel de salida 66dB





VR301

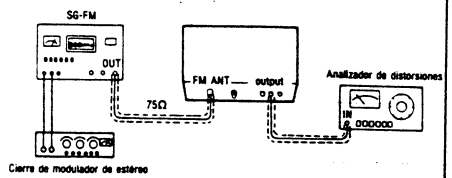
Ⓐ−Ⓑ,
Ⓓ−Ⓒ..... Pósición de "estéreo" OFF.
Ⓑ−Ⓓ..... Pósición de "estéreo" ON. (Indicador encendido)
Ⓒ..... Punto de ajuste de circuito pilotо.

AJUSTE DE DISTORSION DE ESTEREO EN FM

1.La conexión del equipo de pruebas se muestra en la figura.
2.Poner la unidad en modalidad de **"FM"**.
3.Poner la puesta de la presentación de radiofrecuencia y generador de señales a **100,10MHz.**
4.Ajustar **L1** de manera que el factor de distorsión de CH-I se minimice.
5.Asegurarse de que los factores de distorsión de CH-I y CH-D sean casi los mismos uno con el otro.

Nota:
El destornillador de ajuste usado debe estar hecho de resina.

CONDICION DE GENERADOR DE SEÑALES DE FM
Modulación.....Modalidad de "I" o modalidad de "D" 90%, Piloto 10%
Frecuencia de modulación..1kHz, Piloto(19kHz)
Nivel de salida 66dB



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